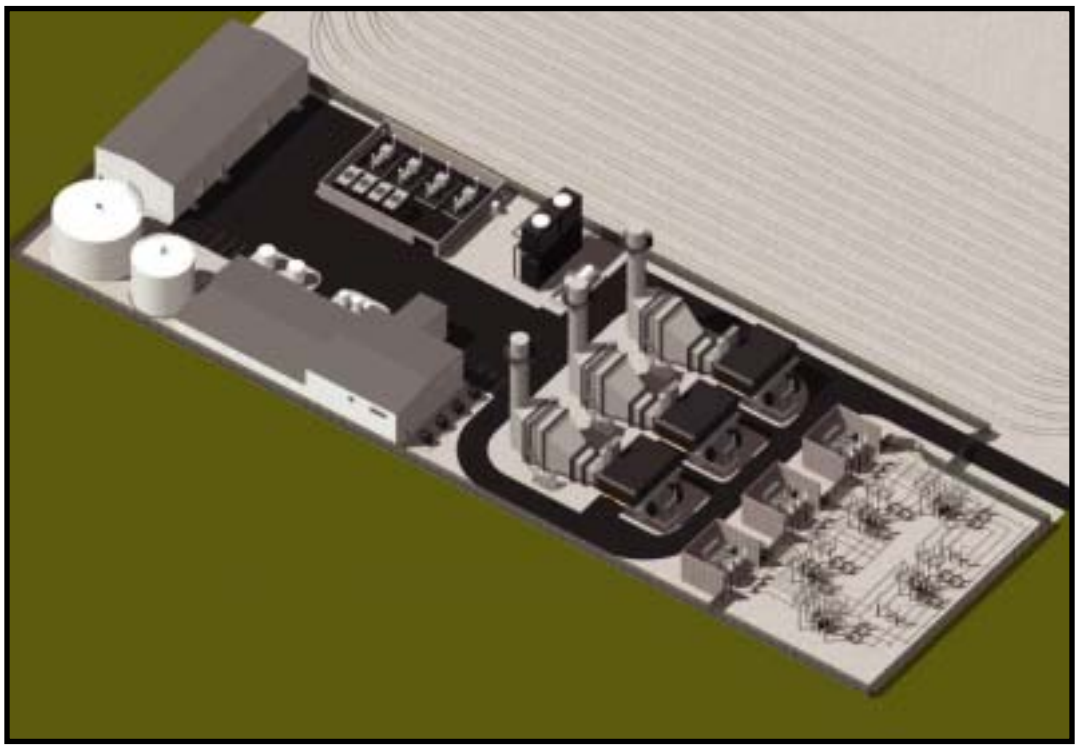
Final Staff Assessment

CALIFORNIA ENERGY COMMISSION

SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

Application For Certification (04-AFC-1)
The City and County of San Francisco



STAFF REPORT

FEBRUARY 2006
(04-AFC-1)
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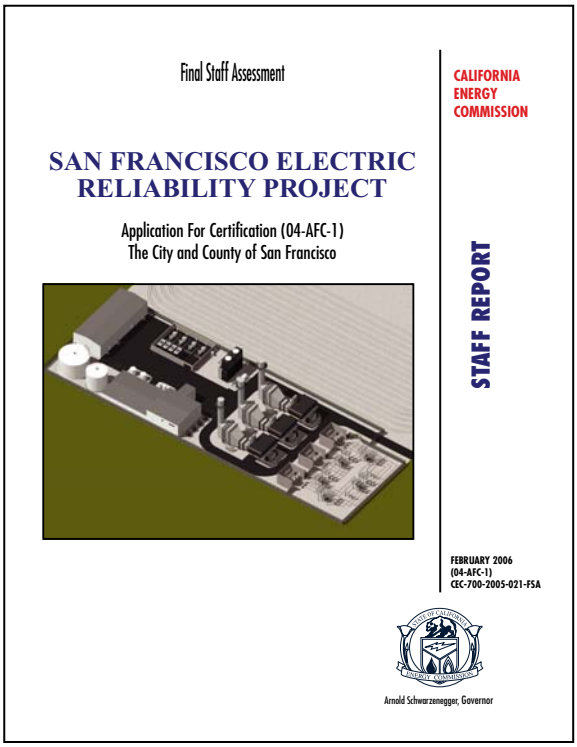
Arnold Schwarzenegger, Governor



CALIFORNIA ENERGY COMMISSION

SITING OFFICE

William Pfanner
Project Manager

Roger E. Johnson
Siting and Compliance Office Manager

SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION

Terrence O'Brien
Deputy Director

SAN FRANCISCO ELECTRIC RELIABILITY PROJECT
04-AFC-1

FINAL STAFF ASSESSMENT

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INTRODUCTION

The Final Staff Assessment (FSA) contains the California Energy Commission staff's independent evaluation of the San Francisco Electric Reliability Project (SFERP) Application for Certification (04-AFC-1). This FSA examines engineering, environmental, public health and safety aspects of SFERP, based on the information provided by the applicant (the City and County of San Francisco (CCSF) and other sources available at the time the FSA was prepared. The FSA contains analyses similar to those normally contained in an Environmental Impact Report (EIR) required by the California Environmental Quality Act (CEQA). When issuing a license, the Energy Commission is the lead state agency under CEQA, and its process is functionally equivalent to the preparation of an EIR.

This FSA is not the decision document for these proceedings, nor does it contain findings of the Energy Commission related to environmental impacts or the project's compliance with local/state/federal legal requirements. The FSA will serve as staff's testimony in evidentiary hearings to be held by the Committee of two Commissioners who are hearing this case. The Committee will consider the recommendations presented by staff, the applicant, all parties, government agencies, and the public prior to proposing its decision. The full Energy Commission will make the final decision, including findings, after the Committee's publication of its proposed decision.

PROJECT LOCATION AND DESCRIPTION

On March 18, 2004, the CCSF submitted an AFC to construct and operate a simple cycle power plant, referred to as the San Francisco Electric Reliability Project (SFERP), initially to be located at the former Potrero power plant site owned by Mirant Corporation. An amendment to the project application, Supplement A, was filed by CCSF with the Energy Commission on March 25, 2005, involving the relocation of the proposed project to a site approximately 1/4 mile south of the original project site. The new location is a 4-acre parcel owned by the CCSF located south of 25th Street and approximately 900 feet east of Illinois Street. The amended project site is located near the San Francisco Bay in the Potrero District of Southeast San Francisco, adjacent to CCSF's planned Municipal Transportation Agency (MUNI) Metro East Light Rail Vehicle Maintenance and Operations Facility.

On November 18, 2005 the CCSF submitted an amendment to the project description to incorporate a revised system for surface water drainage on the project site. Specifically, all storm water from the site would flow easterly to a vegetated swale that would flow northward into the San Francisco Bay. The amended surface drainage system has been assessed in this FSA.

On December 20, 2005 the CCSF submitted another amendment to the project description (Supplement B) involving a change in the recycled water supply source, a new linear waste water supply pipeline route, and modification to the planned on-site

tertiary water treatment facility. The amended project will eliminate the use of raw waste water in favor of secondary effluent water, requiring a much simplified (and less expensive) on-site tertiary water treatment process. The amended waste water supply and treatment system and the revised pipeline route have been assessed in this FSA.

The SFERP will consist of a nominal 145-megawatt (MW) simple-cycle plant, using three natural gas-fired General Electric LM 6000 gas turbines and associated infrastructure. The SFERP power plant switchyard would consist of five circuit breakers organized in a three-phase ring configuration. Two three-phase 115 kV underground transmission circuits would connect the power plant switchyard to the Potrero substation. Both the SFERP site and the Potrero substation will have underground-to-aboveground transition structures at the connection points.

A pipeline tie-in will be made to the existing PG&E natural gas transmission line at the intersection of Illinois and 25th streets. Natural gas for the facility will be delivered through a new 900-foot-long, 12-inch-diameter (or less) pipeline. This service will be connected to a booster compressor station that will be part of the SFERP facility.

Process water for the project will be obtained via a pressurized manhole (manhole #2) in the Southeast Waste Water Treatment Plant (SEWWTP) outfall located approximately 2,600 feet from the SFERP site which will connect to a new recycled water plant located on the southern portion of the project site. The City will provide wastewater effluent for the onsite recycled water treatment plant. The onsite treatment system will be limited to tertiary treatment and will be designed to produce recycled water at the quality level specified by the California Code of Regulations, Title 22 for industrial use. Plant wastewater and reject water from the SFERP wastewater treatment system will be discharged into the City's combined sewer system, which routes the waste to the SEWWTP.

Post–construction treatment of stormwater will be accomplished by directing flow from both the power plant and 25th Street in front of the power plant into a Best Management Practices (BMP) stormwater treatment feature involving a dry vegetated swale. This method of stromwater collection and transport properly treats the stormwater prior to its discharge into the bay,

The plant's design will incorporate air pollution emission equipment designed to meet the best available control technology standards required by the Bay Area Air Quality Management District (BAAQMD).

Site access will be provided via 25th Street at the northern side of the plant site. The plant will be accessed from 25th Street via Illinois Street, with vicinity access via Interstate 280. The site for SFERP is City-owned property. The San Francisco Public Utilities Commission (SFPUC) is pursuing a memorandum of understanding, based on a signed letter of intent for an option to transfer the beneficial use of the property from the MUNI, another City department, to the SFPUC. The memorandum of understanding will be subject to approval by MUNI's Board of Directors, the Public Utilities Commission and the San Francisco Port Commission.

PUBLIC AND AGENCY COORDINATION

On April 4, 2005 and again on February 7, 2006, the Energy Commission staff provided the Supplement A and Supplement B amended project descriptions to a comprehensive list of libraries, agencies, organizations and residences/business within one mile of the proposed project. The Commission staff's explanation letters requested public and agency review, comment, and continued participation in the Energy Commission's certification process.

On May 6, 2005, a Site Visit for the SFERP was conducted and a Committee Conference was held at the Potrero Neighborhood House. Immediately following the Committee Conference, the Commission staff held a public workshop to discuss the applicant's Responses to Data Requests and to resolve issues.

Staff also attended two community presentations sponsored by the CCSF including an open house with the Bayview Hunters Point Neighborhood on June 20, 2005, and an open house with the Potrero/Dogpatch Neighborhood on June 21, 2005.

Staff has worked closely with key agencies in the preparation of the FSA, including agency participation at the Information Hearing and workshops and through communication with the City and County of San Francisco, Bay Area Air Quality Management District (BAAQMD), the Department of Toxic Substances Control (DTSC), the National Marine Fisheries Service, the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) and the United States Fish and Wildlife Services (USFWS), and the California Independent System Operator (CA ISO).

Comments received on the project's Preliminary Staff Assessment (PSA) were taken into consideration in preparing the FSA.

ENVIRONMENTAL JUSTICE

Executive Order 12898, "Federal Actions to address Environmental Justice in Minority Populations and Low-Income Populations," focuses federal attention on the environment and human health conditions of minority communities and calls on federal agencies to achieve environmental justice as part of this mission. The order requires the U.S. Environmental Protection Agency (USEPA) and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.

For all siting cases, Energy Commission staff conducts an environmental justice screening analysis in accordance with the "Final Guidance for Incorporating Environmental Justice Concerns in USEPA's National Environmental Policy Act (NEPA) Compliance Analysis" dated April 1998. The purpose of the screening analysis is to determine whether a minority or low-income population exists within the potentially affected area of the proposed site.

California Statute, Section 65040.12 (c) of the Government Code, defines "environmental justice" to mean "fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." In light of the progress made by federal environmental agencies on environmental justice, the Energy Commission has examined federal guidelines pursuant to its desire to follow environmental justice principles for the environmental review of this project.

The steps recommended by these guidance documents to assure compliance with the Executive Order are: (1) outreach and involvement; (2) a screening-level analysis to determine the existence of a minority or low-income population; and (3) if warranted, a detailed examination of the distribution of impacts on segments of the population. Though the Federal Executive Order and guidance are not binding on the Energy Commission, staff finds these recommendations helpful for implementing this environmental justice analysis. Staff has followed each of the above steps for the following 11 sections in the FSA: Air Quality, Hazardous Materials, Land Use, Noise, Public Health, Socioeconomics, Soils and Water, Traffic and Transportation, Transmission Line Safety/Nuisance, Visual Resources, and Waste Management.

The purpose of the environmental justice screening analysis is to determine whether a low-income and/or minority population exists within the potentially affected area of the proposed site. Staff conducted the screening analysis in accordance with the "Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis" (Guidance Document) dated April 1998. People of color populations, as defined by this Guidance Document, are identified where either:

- the minority population of the affected area is greater than fifty percent of the affected area's general population; or
- the minority population percentage of the area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

The EPA requires local air districts to perform an environmental justice analysis for Prevention of Significant Deterioration permits, where such permits are required by federal law. As the lead agency for reviewing applications to build new thermal electric generation facilities greater than 50 megawatts, the Energy Commission performs an environmental justice analysis in part to assist the local air districts.

A greater than 50 percent non-white (50.56 percent) population has been identified within a one-mile radius of the SFERP site. However, staff did not identify any unmitigated significant direct or cumulative, adverse impacts in any of the 11 sections of the FSA evaluated for environmental justice screening. Therefore, the construction and operation of the SFERP project is not considered to have a disproportional impact on an environmental justice population. However, staff has worked closely with the CCSF to identify local mitigation measures designed to reduce to the greatest extent possible any impact that will occur in the communities surrounding the proposed project.

OUTREACH

The Energy Commission's outreach program is primarily facilitated by the Public Advisers Office (PAO). This is an ongoing process that to date has involved the following efforts:

Project information distribution to libraries:

- On March 29, 2004, the PAO sent the original SFERP AFC to the San Francisco Public Library; including the Larkin Street Main Library; the Potrero Branch Library and the Bayview Branch Library.
- On April 4, 2005, the PAO sent the SFERP AFC Supplement A to these same San Francisco Public Libraries.\
- On February 7, 2006, the SFERP AFC Supplement B was sent to these same San Francisco Public Libraries.

Initial Outreach Efforts:

- Energy Commission staff met with CCSF staff members.
- The PAO prepared informational poster for local distribution.
- The PAO sent notices to homeowners/residents/businesses within proximity to the proposed SFERP.
- A flyer describing the project was distributed to all San Francisco City and County elected officials and all sensitive receptors (hospitals, schools, daycare centers, convalescent facilities) located within a three-mile radius of the proposed SFERP.
- Flyers were distributed to all local schools (four elementary) within a three-mile radius of the proposed SFERP.
- Flyers were distributed to local businesses.
- On June 9, 2004, staff met informally with representatives of Greenaction for Health and Environmental Justice (Greenaction), Communities for a Better Environment (CBE), the Potrero Boosters Neighborhood Association and the Dogpatch Neighborhood Association
- On June 16, 2004, staff met informally with representatives of Californians for Renewable Energy (CARE).
- On July 19, 2004, staff met informally with representatives of the Bayview Hunters Point Neighborhood Association.

Preparation for Information Hearing/Site Visit on June 15, 2004 and May 6, 2005:

- Eleven thousand flyer-inserts circulated by the Independent newspaper (i.e., a publication by the San Francisco Examiner) on June 8 and again on June 12, 2004.
- A mass e-mail for the Committee Conference/Site Visit flyer regarding Supplement A (similar to that distributed in 2004) was sent by the PAO to over 200 individuals and organizations. Additionally, notification was circulated in The Independent newspaper and sent to organizations representing the community (including Greenaction, Dogpatch Homeowners Association, Potrero Homeowners Association, Hunters/Bay View Homeowners Association, Potrero Business Association, CBE and the California Center for Environmental Health).

Preparation for Data Response/Issue Resolution Workshop, July 19, 2004 and May 6, 2005:

- For the 2004 Data Response/Issue Resolution Workshop, the PAO sent 25 letters and 120 emails to sensitive receptors, local residents and community leaders in the Potrero Hills/Hunters Point area of southeast San Francisco to inform them of the July 19th workshop for the SFERP. This workshop was held at the Potrero Hill Neighborhood House in San Francisco.
- For the 2005 Data Response/Issue Resolution Workshop held in 2004, staff sent a mass e-mail for Supplement A, flyers were sent by the PAO to over 200 individuals and organizations. Additionally, notification was circulated in The Independent newspaper, and sent to organizations representing the community (including Greenaction, Dogpatch Homeowners Association, Potrero Homeowners Association, Hunters/Bay View Homeowners Association, Potrero Business Association, CBE and the California Center for Environmental Health).
- On October 18, 2005, Energy Commission staff held a workshop on the PSA published on September 12, 2005. The purpose of the workshop was to allow the proponent's representatives, interested agencies, and the public to discuss the PSA. The specific topics discussed included: Air Quality, Biological Resources, Cultural Resources, Waste Management, Hazardous Materials, Worker Safety, Public Health, Land Use, Noise, Socioeconomics, Traffic and Transportation, Efficiency, Transmission System Engineering/Local System Effects, Visual Resources, Water and Soil Resources, and Project Alternatives.

Energy Commission regulations require staff to notice, at a minimum, property owners within 1,000 feet of a project and 500 feet of a linear facility (such as transmission lines, gas lines and water lines). This was done for the SFERP. In addition, staff used a private company to prepare a mailing notification of residences and businesses within one mile of the original Potrero site. Staff also prepared a notification list of the region's organizations based on information received from the CCSF and another notification list including the names of interested parties from the former Mirant project.

STAFF'S ASSESSMENT

The Energy Commission staff has the responsibility to complete an independent assessment of the project's engineering design and its potential effects on the environment, the public's health and safety, and whether the project conforms with all applicable laws, ordinances, regulations and standards (LORS). The staff also recommends measures to mitigate potential significant adverse environmental effects and conditions of certification for construction, operation and eventual closure of the project, if approved by the Energy Commission.

Each technical area section of the FSA contains a discussion of the project setting, impacts, and where appropriate, mitigation measures and conditions of certification. The FSA includes staff's assessment of:

- the environmental setting of the proposal;
- impacts on public health and safety, and measures proposed to mitigate these impacts;
- environmental impacts, and measures proposed to mitigate these impacts;
- the engineering design of the proposed facility, and engineering measures proposed to ensure the project can be constructed and operated safely and reliably;
- project closure;
- project alternatives;
- compliance of the project with all applicable laws, ordinances, regulations and standards (LORS) during construction and operation;
- environmental justice for minority and low income populations; and
- proposed conditions of certification.

Staff has prepared its FSA analyses and has made recommendations for mitigation measures i in the form of Conditions of Certification to be adopted as requirements for approval of the SFERP.

SUMMARY OF PROJECT RELATED IMPACTS

Staff believes that as currently proposed, including the applicant's and the staff's proposed mitigation measures and the staff's proposed conditions of certification, the SFERP will comply with all applicable laws, ordinances, regulations, and standards (LORS), and that significant adverse direct, indirect, and cumulative impacts will not occur (see summary table below).

Technical Area	Complies with LORS	Impacts Mitigated
Air Quality	Yes	Yes
Biological Resources	Yes	Yes
Cultural Resources	Yes	Yes
Efficiency	Yes	N/A
Facility Design	Yes	N/A
Geology & Paleontology	Yes	Yes
Hazardous Materials	Yes	Yes
Land Use	Yes	Yes
Noise	Yes	Yes
Public Health	Yes	Yes
Reliability	Yes	N/A
Socioeconomic Resources	Yes	Yes
Soil & Water Resources	Yes	Yes
Traffic & Transportation	Yes	Yes
Transmission Line Safety/Nuisance	Yes	Yes
Transmission System Engineering & Local System Effects	Yes	Yes
Visual Resources	Yes	Yes
Waste Management	Yes	Yes
Worker Safety and Fire Protection	Yes	Yes

ALTERNATIVES SUMMARY

In the analysis of individual resource areas, the FSA finds potential adverse impacts of the proposed SFERP on air quality, cultural resources, hazardous materials management, land use, noise, and public health. Given the potential for impacts, staff evaluated six alternatives in detail. An additional 24 alternatives were considered but eliminated from detailed analysis. The alternatives analyzed in detail include three site alternatives (involving construction of the three turbines in a different location) at Brisbane, San Francisco International Airport (SFIA), and East Bay alternative sites: two project alternatives (the Trans Bay Cable Project and the Potrero Power Plant Unit 7 Project): and a No Project Alternative.

Among the project alternatives analyzed, the alternative considering construction of Potrero Power Plant Unit 7 has the potential for the greatest environmental impacts. Of the alternative sites evaluated, the Brisbane Alternative has the potential for greatest impacts and would have greater impacts in comparison with the proposed SFERP in the issue areas of noise, land use, traffic, visual resources, and water and soils, as well as concerns relating to transmission system engineering and transmission safety and nuisance.

The Trans Bay Cable Project, the Brisbane site, San Francisco International Airport (SFIA), and East Bay Alternatives would fail to meet a major project objective: closing

aging in-City generation, i.e., releasing Potrero Units 3 through 6 from applicable Reliability Must Run (RMR) contracts. Because these alternatives would not result in generation within the CCSF, they would not meet California Independent System Operator (Cal ISO) requirements for generation to be "north of the Martin Substation." The Trans Bay Cable Project would likely have the least environmental impacts overall (primarily because, as a transmission project, its operational impacts would be minor), but construction of this project would result in greater impacts than the proposed project to aquatic biological resources, water and soil, traffic, geological resources, and transmission line safety and nuisance impacts. However, without the documented findings that would enable closure of in-City generation facilities, the overall impacts of the Trans Bay Cable Project would be greater than those of the SFERP.

Staff also believes that, overall, the No Project Alternative is not superior to the proposed project. The No Project scenario would likely delay the closure of the Potrero Power Plant Units 3 through 6, an objective of the proposed SFERP, which are older plants with relatively higher air emissions. The No Project Alternative would also result in reduced reliability for San Francisco's electrical supply.

NOTEWORTHY PUBLIC BENEFITS

AIR QUALITY

The City plans to operate local monitoring stations prior to SFERP operation that would collect information on air quality and provide a basis to address community concerns related to the possible need for further mitigation measures. One of these monitoring stations is located in Whitney Young Circle at Hudson and Progress streets and has already began collecting data on criteria and toxic air pollutants in the Hunters Point community (the city's station is planned to operate for approximately 12 months). The City plans to locate two other monitoring stations in the Potrero Hill and Dogpatch neighborhoods. Data collected from these local stations would be compared with data collected from the BAAQMD Arkansas Street monitoring station to determine if there are any significant local variations in air quality. Depending on the data obtained from these stations, the City may continue to monitor the air quality in the southeast part of the City after SFERP start-up.

In addition to the above, it is noteworthy that one of the important project objectives of SFERP is to enable shutdown of the existing in-city generation, including Hunters Point Units 1 and 4. The City has been in discussion with the CA ISO regarding the prerequisites to such a shutdown and the factors involved in terminating the Reliability Must Run (RMR) contracts for the Mirant Potrero generation facility. This process is still evolving, but it appears increasingly likely that Pacific Gas and Electric (PG&E) will shut down the Hunters Point Units as a result of these efforts in the approximate time frame that SFERP comes on-line. The air emissions from Hunters Point units have been a community health concern for many years. The final closure of these units will constitute a benefit to the surrounding community and the air basin by removing this concern.

POWER PLANT RELIABILITY

The applicant proposes that one of the primary justifications for the SFERP is that it will improve reliability in San Francisco and the peninsula. This will be accomplished by

replacing old unreliable units with a new highly reliable technology. The fact that the project consists of three combustion turbine generators configured as independent equipment trains provides inherent reliability. A single equipment failure cannot disable more than one train, thus allowing the plant to continue to generate (at reduced output).

TRANSMISSION SYSTEM ENGINEERING/LOCAL SYSTEM EFFECTS

A summary of the Transmission System Engineering/Local System Effects of the SFERP includes the following:

1. The SFERP will reduce transmission system losses. Over 20 years, the savings to ratepayers have a present value at between $18 million and $27 million. As well as reducing the cost of producing power in California, these loss reductions would also contribute to a related decrease in the use of fossil fuels, water, and the production of air emissions by reducing the need for additional generation resources.
2. A primary benefit of the addition of the SFERP is that the old and unreliable Potrero turbines (units 4, 5 and 6) could be released from their RMR contracts and retired.
3. The SFERP can be reliably connected to the CA ISO controlled grid with the projects identified in the current transmission plan and no “downstream” new or modified facilities are required to accommodate interconnection of the project.
4. The SFERP would increase reactive margin in San Francisco and thus improve system reliability and help to maintain sufficient voltage in the area.

WATER QUALITY AND SOIL CONTAMINATION

The use of raw sewage will slightly decrease the volume of wastewater treated by the SEWWTP and reduce the quantity of secondary wastewater discharged to San Francisco Bay. The use of recycled water for plant processes reduces the need for other freshwater sources to be used for this project and maintains reliability of local water supplies. Chapter 7.5 of the California Water Code, the Water Recycling Act of 1991, sets a statewide water recycling goal to recycle a total of one million acre-feet of water per year by the year 2010. The SFERP site will use over 500 acre-feet of recycled water each year in support of the 2010 goal.

Implementation of the project’s Conditions of Certification would also improve water quality by preventing potential existing soil and groundwater contaminants on the project site from leaching into the San Francisco Bay.

RECOMMENDATIONS AND SCHEDULE

Commission staff has concluded that if all mitigation measures and recommended conditions of certifications are adopted by the Commission and implemented by the applicant, all applicable laws, ordinances, regulations and standards will be complied with and no significant adverse environmental impacts will result from the SFERP. Staff also concludes that there will not be a disproportionately high and adverse human health or environmental effect on a minority and/or low-income population. Staff therefore recommends certification of the SFERP subject to all conditions of certification as proposed in this FSA.

It is anticipated that a public workshop will be conducted soon after the publication of this FSA, with Evidentiary hearings to follow shortly thereafter.

INTRODUCTION

Testimony of William Pfanner

PURPOSE OF THIS REPORT

This Final Staff Assessment (FSA) is the Energy Commission staff's independent analysis of the San Francisco Electric Reliability Project, Amendment A and Amendment B (hereto referred to as the SFERP). This FSA is a staff document. It is neither a Committee document, nor a draft decision. The FSA describes the following:

- the proposed project;
- the existing environment;
- whether the facilities can be constructed and operated safely and reliably in accordance with applicable laws, ordinances, regulations and standards (LORS);
- the environmental consequences of the project including potential public health and safety impacts;
- cumulative analysis of the potential impacts of the project, along with potential impacts from other existing and known planned developments;
- mitigation measures proposed by the applicant, staff, interested agencies, local organizations and intervenors which may lessen or eliminate potential impacts;
- the proposed conditions under which the project should be constructed and operated and closed, if it is certified; and
- project alternatives.

The analyses contained in this FSA are based upon information from the: 1) AFC Supplement A, 2) AFC Supplement B; 3) responses to data requests, 4) supplementary information from local and state agencies, interested organizations and individuals,5) existing documents and publications,6) independent field studies and research, and7) comments at workshops. The analyses for most technical areas include discussions of proposed conditions of certification. Each proposed condition of certification is followed by a proposed means of "verification." The FSA presents conclusions and proposed conditions that apply to the design, construction, operation and closure of the proposed facility.

The Energy Commission staff's analyses were prepared in accordance with Public Resources Code section 25500 et seq. and Title 20, California Code of Regulation section 1701 et seq., and the California Environmental Quality Act (CEQA) (Pub. Resources Code, §21000 et seq.)

ORGANIZATION OF THE PRELIMINARY STAFF ASSESSMENT

The FSA contains an Executive Summary, Introduction, Project Description, and Project Alternatives. The environmental, engineering, and public health and safety analysis of the proposed project is contained in a discussion of 19 technical areas. Each technical area is addressed in a separate chapter. They include the following: air

quality, public health, worker safety and fire protection, transmission line safety, hazardous material management, waste management, land use, traffic and transportation, noise, visual resources, cultural resources, socioeconomics, biological resources, soil and water resources, geological and paleontological resources, facility design, power plant reliability, power plant efficiency, and transmission system engineering. These chapters are followed by a discussion of facility closure, project construction and operation compliance monitoring plans, and a list of staff that assisted in preparing this report.

Each of the 19 technical area assessments includes a discussion of:

- laws, ordinances, regulations and standards (LORS);
- the regional and site-specific setting;
- project specific and cumulative impacts;
- mitigation measures;
- closure requirements;
- conclusions and recommendations; and
- conditions of certification for both construction and operation (if applicable).

ENERGY COMMISSION SITING PROCESS

The California Energy Commission has the exclusive authority to certify the construction, modification and operation of thermal electric power plants 50 megawatts (MW) or larger. The Energy Commission certification is in lieu of any permit required by state, regional, or local agencies, and federal agencies to the extent permitted by federal law (Pub. Resources Code, §25500). The Energy Commission must review power plant AFCs to assess potential environmental impacts including potential impacts to public health and safety, potential measures to mitigate those impacts [Pub. Resources Code, §25519), and compliance with applicable governmental laws or standards (Pub. Resources Code, §25523 (d)].

The Energy Commission's siting regulations require staff to independently review the AFC and assess whether the list of environmental impacts contained is complete, and whether additional or more effective mitigation measures are necessary, feasible and available [Cal. Code Regs., tit. 20, §§1742 and 1742.5(a)]. Staff's independent review shall be presented in a report (Cal. Code Regs., tit. 20 , §1742.5). The Final Staff Assessment (FSA) is that report.

In addition, staff must assess the completeness and adequacy of the health and safety standards, and the reliability of power plant operations [Cal. Code Regs., tit. 20, §1743(b)]. Staff is required to develop a compliance plan (coordinated with other agencies) to ensure that applicable laws, ordinances, regulations and standards are met [Cal. Code Regs., tit. 20, §1744(b)].

Staff conducts its environmental analysis in accordance with the requirements of the California Environmental Quality Act (CEQA). No additional Environmental Impact

Report (EIR) is required because the Energy Commission's site certification program has been certified by the Resources Agency as meeting all requirements of a certified regulatory program [Pub. Resources Code, §21080.5 and Cal. Code Regs., tit. 14, §15251 (k)]. The Energy Commission acts in the role of the CEQA lead agency and is subject to all other applicable portions of CEQA.

The staff prepares an FSA and presents for the applicant, intervenors, organizations, agencies, other interested parties and members of the public, the staff's analysis, conclusions, and recommendations. Where it is appropriate, the FSA incorporates comments received from agencies, the public and parties to the siting case, and comments made at the workshops.

Staff will provide a comment period to resolve issues between the parties and to narrow the scope of adjudicated issues in the evidentiary hearings. During the period after the publishing of the FSA, staff will conduct a workshop(s) to discuss its findings, proposed mitigation, and proposed compliance-monitoring requirements. Based on the workshop(s), staff may refine its FSA analysis through an Addendum to the FSA.

The FSA is only one piece of evidence that will be considered by the Committee (two Commissioners who have been assigned to this project) in reaching a decision on whether or not to recommend that the full Energy Commission approve the proposed project. At the public hearings, all parties will be afforded an opportunity to present evidence and to rebut the testimony of other parties, thereby creating a hearing record on which a decision on the project can be based. The hearing before the Committee also allows all parties to argue their positions on disputed matters, if any, and it provides a forum for the Committee to receive comments from the public and other governmental agencies.

Following the hearings, the Committee's recommendation to the full Energy Commission on whether or not to approve the proposed project will be contained in a document entitled the Presiding Members' Proposed Decision (PMPD). Following publication, the PMPD is circulated in order to receive written public comments. At the conclusion of the comment period, the Committee may prepare a revised PMPD. At the close of the comment period for the revised PMPD, the PMPD is submitted to the full Energy Commission for a decision. Within 30 days of the Energy Commission decision, any party may appeal the decision to the Energy Commission.

PUBLIC AND AGENCY COORDINATION

Publicly noticed workshops have been held in San Francisco. Topics discussed include: Air Quality, Project Alternatives, Cultural Resources, Land Use, Noise, Soil and Water Resources, Traffic and Transportation, Transmission System Engineering, Visual Resources, Waste Management, Hazardous Materials Management, and Public Health

In addition to these workshops, extensive coordination has occurred with the numerous local, state and federal agencies that have an interest in the project. Particularly, Energy Commission staff has worked with the City and County of San Francisco, intervenors, community groups, and individual members of the public of the community. On June 9,

2004, staff met informally with representatives of Greenaction for Health and Environmental Justice (Greenaction), Communities for a Better Environment (CBE), the Potrero Boosters Neighborhood Association and the Dogpatch Neighborhood Association to discuss their organizations' key concerns regarding the proposed SFERP. On June 16, staff met with representatives of Californians for Renewable Energy (CARE) and on July 19, staff conducted a similar meeting with representatives of the Bayview Hunters Point Neighborhood Association.

PROJECT DESCRIPTION

Testimony of William Pfanner

INTRODUCTION

On March 18, 2004, the City and County of San Francisco (CCSF) submitted an Application for Certification (AFC) to the Energy Commission to construct and operate a simple cycle power plant, referred to as the San Francisco Electric Reliability Project (SFERP). The project was initially to be located at the former Potrero power plant site owned by Mirant Corporation. However, an amendment to the project application, Supplement A, was filed by CCSF on March 25, 2005, relocating the proposed project to a site approximately 1/4 mile to the south of the original Mirant project site. The new location is a 4-acre parcel owned by CCSF located south of 25th Street and approximately 900 feet east of Illinois Street. This is the project as reviewed in the Preliminary Staff Assessment (PSA).

On November 18, 2005, the CCSF submitted an amendment to the project description to incorporate a revised system for surface water drainage on the project site. Specifically, all storm water from the site would flow easterly to a vegetated swale that would flow northward into the San Francisco bay. The amended surface drainage system has been assessed in this Final Staff Assessment (FSA).

On December 20, 2005, the CCSF submitted another amendment to the project description involving a change in the recycled cooling water supply source, a new linear waste water supply route, and modification to the planned on-site tertiary water treatment facility. The amended project will eliminate the use of raw waste water in favor of secondary treated effluent water, resulting in a much simpler (and less expensive) on-site tertiary water treatment process. The amended waste water supply and treatment system has been assessed in this FSA.

SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

LOCATION

The SFERP Supplement A and B (here to referred to as SFERP) will consist of a nominal 145-megawatt (MW) simple-cycle plant, using three natural gas-fired General Electric LM 6000 gas turbines and associated infrastructure. The project site is located near the San Francisco Bay in the Potrero District of Southeast San Francisco (see **Project Description Figure 1- Vicinity Map)** and is adjacent to the planned MUNI Metro East Light Rail Vehicle Maintenance and Operations Facility **(**see **Project Description Figure 2 – Site Location Map)**.

PROJECT CONSTRUCTION AND FACILITY OPERATION

Construction of the SFERP, from site preparation and grading to commercial operation, is expected to take approximately 12 months with commercial operation anticipated to

begin in mid 2007. The CCSF intends to operate the facility 24 hours per day, 7 days per week, for up to 12,000 hours per year total for the three combustion turbines.

PROJECT EQUIPMENT AND LINEAR FACILITIES

Thermal energy will be produced in the three combustion turbine generators (CTGs) through the combustion of natural gas, which will be converted into the mechanical energy required to drive the combustion turbine compressors and electric generators. Three General Electric aeroderivative CTGs have been selected for the project. The aeroderivative technology is the most efficient simple-cycle CTG on the market and has a documented availability record of 97.8 percent. Each CTG system will consist of a CTG with supporting systems and associated auxiliary equipment. The CTGs will have water injection for controlling oxides of nitrogen (NOx) emissions and for power augmentation; CTG exhaust emissions will be further reduced through the use of selective catalytic reduction (SCR) and oxidation catalyst systems. The project's heat rejection system will consist of a single two-cell wet counter flow cooling tower to remove the heat generated by the turbine inlet chillers and the heat generated by miscellaneous auxiliary heat loads such as lube oil coolers.

The CTGs will be equipped with the following required accessories to provide safe and reliable operation:

- Exhaust stacks – (85 feet high and 12 foot diameter)
- Single two-cell cooling tower
- Inlet air chilling
- Inlet air filters
- Metal acoustical enclosure
- Lube oil cooler
- Water injection system
- Turbine enclosure vent fans
- Generator enclosure vent fans
- Fire detection and protection system

Site Plan and Access

The site arrangement shown in **Project Description Figure 3 - Plant Elevation** and the typical elevation views presented in **Project Description Figure 4 - Site Layout** illustrates the location and size of the proposed facility. Access to the facility will be via a 20 foot wide plant access roadway located on the west side of the project site off of 25th street. Approximately 4 fenced acres will be required to accommodate the generation facilities. The construction laydown area will be approximately 8.5 acres located on land leased from the Port of San Francisco. The laydown area is located directly east and adjacent to the project site between the project site and the waterfront. Currently, there are some temporary facilities on the project site including construction trailers, a construction laydown area and a concrete batch plant. The temporary facilities will be removed prior to the construction of the SFERP.

Fuel

A pipeline tie-in will be made to the existing PG&E natural gas transmission line at the intersection of Illinois and 25th streets. Natural gas for the facility will be delivered through a new 900-foot-long, 12-inch-diameter (or less) pipeline. This service will be connected to a booster compressor station that will be part of the SFERP facility.

Water

The SFERP is proposing to access treated secondary effluent for cooling via a new pressurized pipeline leading to a manhole in the Southeast Waste Water Treatment Plant (SEWWTP) outfall located approximately 2,600 feet from the SFERP. At this location, the water supply is of significantly better quality than the raw wastewater supply from the collection box on Marin Street originally proposed. The improvement in water quality eliminates the need for the traveling band screen and the onsite secondary treatment system using an aerobic tank, reducing the project cost and long-term maintenance requirements. Onsite water treatment will now be limited to tertiary treatment as follows: incoming secondary effluent water supply will go through ultra-filtration followed by disinfection, and then be passed through a single-stage reverse osmosis treatment system. The resultant final water quality will meet full California Code of Regulation's Title 22 tertiary recycled water requirements. The new process will not require any changes to the chemical inventory for the SFERP (Appendix C in the Hazardous Materials section of the FSA) except that sodium aluminate, a coagulant for plant makeup water, will no longer be used at the site.

It is expected that the new wastewater supply pipeline would be installed in a relatively shallow trench, with a total excavation depth of approximately 7 feet. The width would be approximately 5 feet with allowance for clearance on both sides of the pipe and trench shoring and sheeting. Trench width will depend on the type of soils encountered and slope required by OSHA regulations.

Wastewater Discharge

Wastewater from the water treatment process, cooling/process water blowdown, and sanitary sewer discharges will be sent to the SEWPCP via the combined sewer system. The interconnection to the combined sewer system will be located in Cesar Chavez Street, on the south side of the project site.

Surface Water Discharge

Post construction treatment of storm water will be accomplished by directing sheet flow from both the power plant site and 25th Street in front of the power plant into a Best Management Practices (BMP) storm water treatment feature incorporating a dry, vegetated swale (an oil/water separator may be provided if deemed necessary though onsite review and BMP requirements). The finished plant site will be an impervious surface, as is the existing street, thus, all surface water will flow easterly to the vegetated swale that will flow northward into the San Francisco Bay. The vegetated swale is an open shallow channel with vegetation covering the side slopes and bottom that collect and slowly convey runoff flow to a discharge point. The area between the plant site and the swale (as well as the area between the street and the swale) will be surfaced with vegetation similar to the grass in the swale. A membrane will be installed

under the surface to ensure that no storm water percolates into the subsurface but rather is transported to the swale. This method of storm water collection and transport properly treats the storm water in conformance with Bay Conservation and Development Commission (BCDC) requirements prior to its discharge into the Bay.

Electricity Transmission and Distribution

The project will include the construction of a new underground transmission line and air-insulated 115-kilovolt (kV) electric transmission line switchyard on the north side of the site adjacent to 25th Street. Pacific Gas & Electric (PG&E) is currently performing a Facilities Study to evaluate whether the SFERP circuits will enter the switchyard underground from Illinois Street or continue underground north to 22nd Street. The circuits would then run east beneath 22nd Street to an underground/overhead transition structure located on the eastern portion of the Potrero switchyard. This overhead line would then connect with the switchyard bus in an overhead arrangement. Electrical generation will be at 13.8 kV, which will be stepped up with 115-kV step-up transformers. Electric equipment insulating materials will be specified to be free of PCBs.

The proposed SFERP transmission project will consist of two underground 115-kV circuits extending approximately 3,000 feet from the project's 115-kV switchyard to the connection point at PG&E's Potrero Substation to the northeast, including two related underground-to-aboveground transition structures at the project site and the PG&E Potrero Substation connection point.

AIR POLLUTION EMISSION CONTROLS

The plant's design will incorporate air pollution emission controls designed to meet the best available technology stringent standards required by the State and the Bay Area Air Quality Management District (BAAQMD). These controls will include water injection for combustion control of nitrogen emissions, a selective catalytic reduction system (SCR) for post combustion control oxides of nitrogen emissions, and an oxidation catalyst system to control carbon monoxide and precursor organic compound emissions.

MANAGEMENT OF HAZARDOUS MATERIALS

There will be a variety of chemicals stored and used during construction and operation of SFERP. The storage, handling, and use of all chemicals will be conducted in accordance with applicable laws, ordinances, regulations, and standards (LORS). Chemicals will be stored in appropriate chemical storage facilities, bulk chemicals will be stored in storage tanks, and most other chemicals will be stored in returnable delivery containers. Chemical storage and chemical feed areas will be designed to contain leaks and spills. Berm and drain piping design will allow a full-tank capacity spill without overflowing the berms (the applicant can design for either 125% of storage volume or volume plus 100-year rainfall event). For multiple tanks located within the same bermed area, the capacity of the largest single tank will determine the volume of the bermed area and drain piping. Drain piping for volatile chemicals will be trapped and isolated from other drains to eliminate noxious or toxic vapors. After neutralization, if required, water collected from the chemical storage areas will be directed to the cooling tower basin.

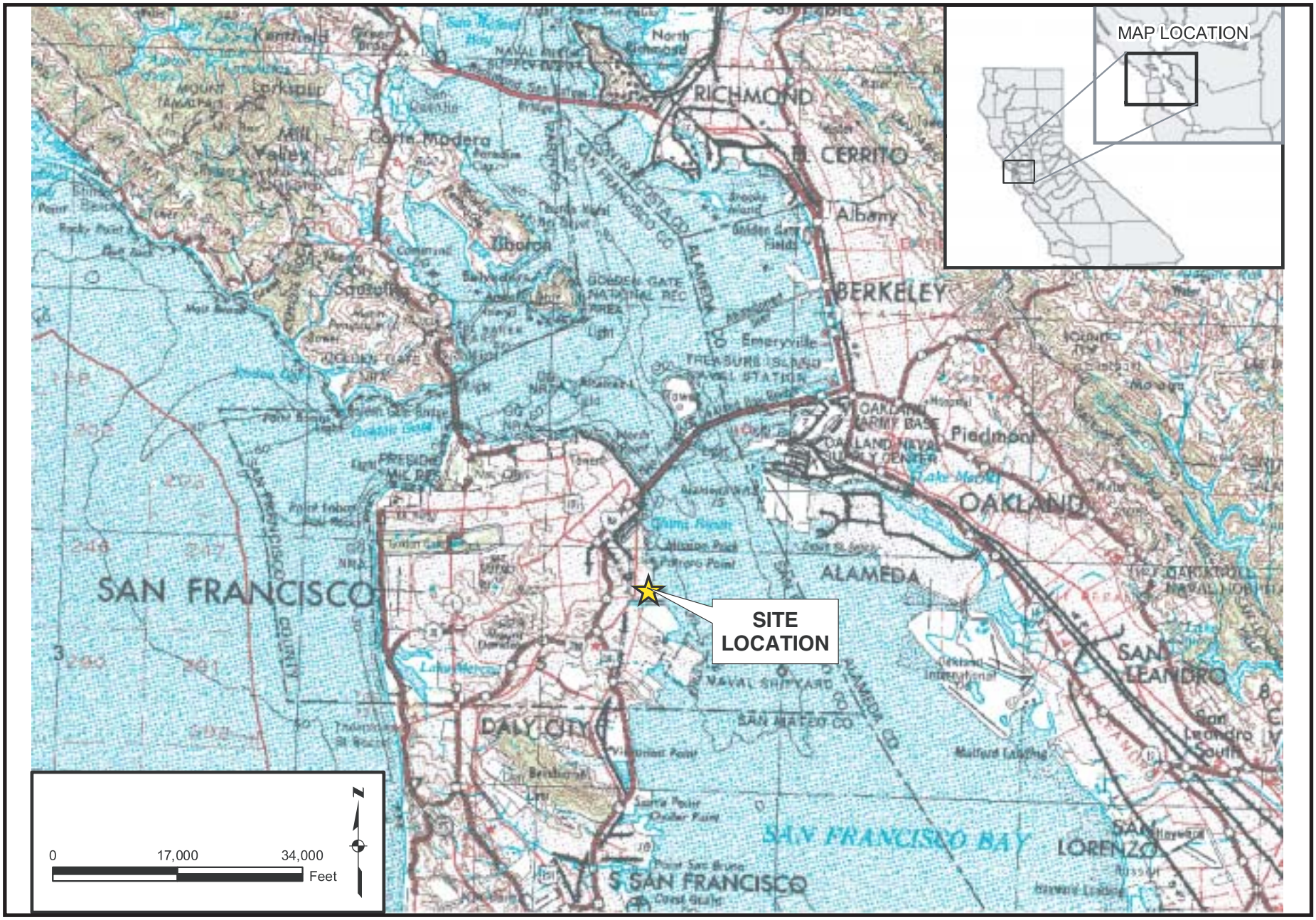
A 29 percent solution of aqueous ammonia will be stored in a tank with a containment basin and collection sump. Portable safety showers and eyewashes will be provided adjacent to the ammonia storage tank area. Maintenance personnel will use state-approved, personal protective equipment (PPE) during chemical spill containment and cleanup activities. Personnel will be properly trained in the handling of these chemicals. Visual and audible alarms will alert SFERP personnel and personnel at the adjacent MUNI facility in the event of an ammonia spill. Training will also be provided to SFERP personnel and personnel at the adjacent MUNI facility on the procedures to follow in case of a chemical spill or accidental release. Adequate supplies of absorbent material will be stored onsite for spill cleanup.

The San Francisco Hazardous Materials Team located in Fire Station No. 36 at 109 Oak Street approximately four miles from the project site is considered first responder for any HazMat incident at the SFERP, with a response time of about 30 minutes. Backup support and technical consultants would be provided by the San Francisco Environmental Health Section of the Department of Public Health. The SFFD has indicated that Fire Stations No. 25, 37, and 9 are adequately equipped and manned to deal with any incident at the proposed facility.

Consistent with current state and federal regulations governing the transport of hazardous materials, hazardous materials vendors will have to maintain their transport vehicle fleet and employ only drivers properly licensed and trained. The project owner will be required, through the use of contractual language with vendors, to ensure that vendors supplying hazardous materials strictly adhere to the U.S. Department of Transportation (DOT) requirements for Hazardous Materials vendors to prepare and implement security plans as per 49 CFR 172.800 and to ensure that all hazardous materials drivers are in compliance with personnel background security checks.
A security plan will be prepared for the proposed facility, and will include a description of perimeter security measures, and procedures for evacuating, notifying authorities of a security breach, conducting site personnel background checks, and site access. Perimeter security measures utilized for this facility may include security guards, security alarms, breach detectors, motion detectors, and video or cameral systems.

PROJECTION DESCRIPTION - FIGURE 1

San Francisco Electric Reliability Project - Supplement A - Vicinity Map



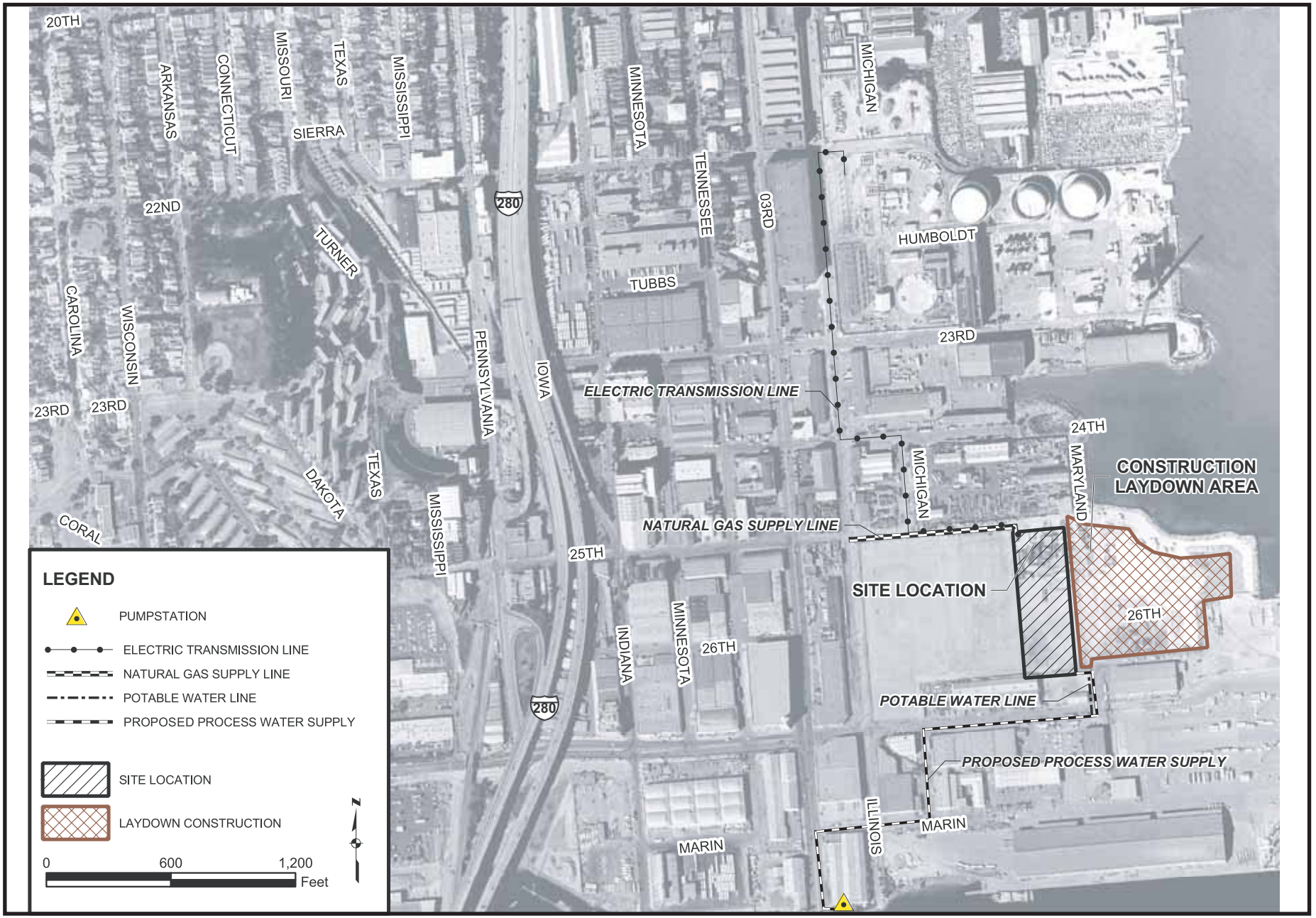
CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, SEPTEMBER 2005

SOURCE: AFC Supplement A, Figure 1-1

PROJECTION DESCRIPTION - FIGURE 2

San Francisco Electric Reliability Project - Supplement A - Site and Linear Facilities Location

FEBRUARY 2006



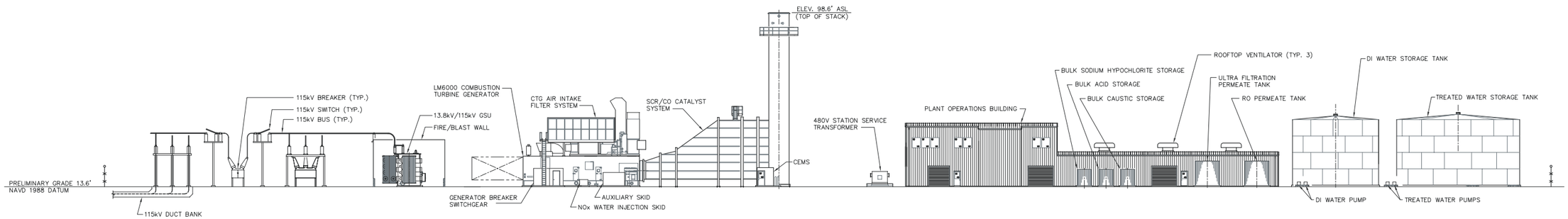
PROJECT DESCRIPTION

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, FEBRUARY 2006

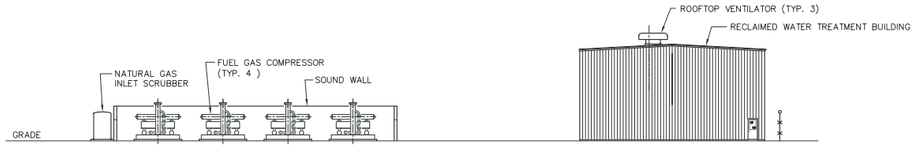
SOURCE: AFC Supplement A, Figure 2-1

PROJECTION DESCRIPTION - FIGURE 3

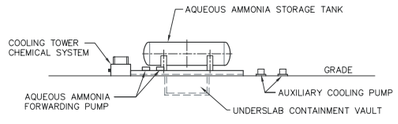
San Francisco Electric Reliability Project -Supplement A- Plant Elevation



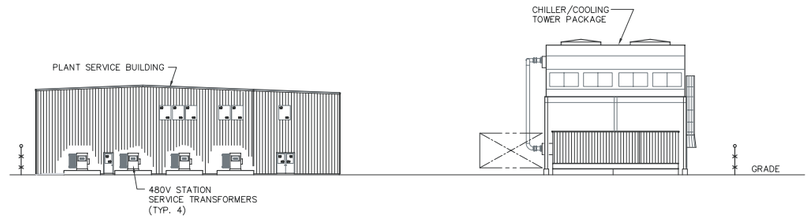
ELEVATION A
SCALE: 1"=20'-0"
G8.1 | G8.2



ELEVATION B
SCALE: 1"=20'-0"
G8.1 | G8.2



ELEVATION C
SCALE: 1"=20'-0"
G8.1 | G8.2



ELEVATION D
SCALE: 1"=20'-0"
G8.1 | G8.2

PRELIMINARY

FEBRUARY 2006

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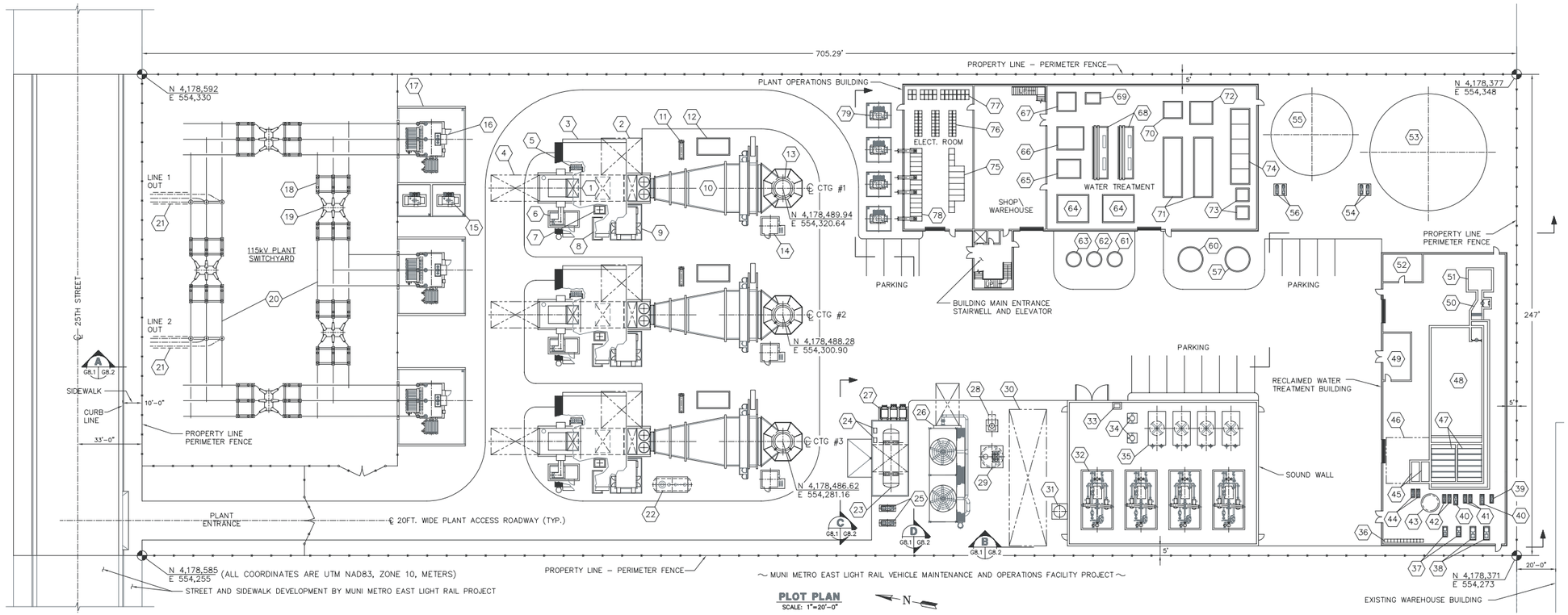
SOURCE: AFC Supplement A, Figure 2-3

PROJECTION DESCRIPTION - FIGURE 4

San Francisco Electric Reliability Project - Supplement A - Site Layout

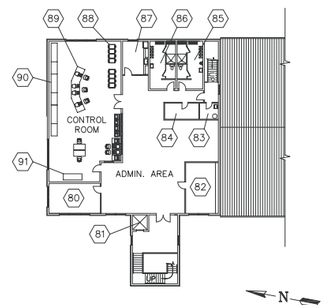


PLOT PLAN
SCALE: 1"=20'-0"

LEGEND:

TYPICAL FOR THREE UNITS

1. LM6000 COMBUSTION TURBINE GENERATOR
2. TURBINE REMOVAL/MAINTENANCE AREA
3. CTG AIR INTAKE FILTER SYSTEM
4. GENERATOR ROTOR REMOVAL AREA
5. CTG FIRE PROTECTION SKID
6. GENERATOR BREAKER SWITCHGEAR
7. SPRINT SYSTEM SKID
8. NOx WATER INJECTION SKID
9. AUXILIARY SKID
10. SCR/CO CATALYST SYSTEM
11. AMMONIA FLOW BALANCE SKID
12. AMMONIA VAPORIZATION SKID
13. STACK
14. CEMS
15. 5KV AUXILIARY TRANSFORMER (TYP. 2)
16. 13.8kV/115KV GSU (TYP. 3)
17. FIRE/BLAST WALL (TYP.)
18. 115kV SWITCH (TYP. 10)
19. 115 kV BREAKER (TYP.5)
20. SWITCHYARD BUS WORK
21. 115kV DUCT BANK
22. TURBINE WASH WATER DRAIN TANK (UG)
23. AQUEOUS AMMONIA STORAGE TANK
24. AQUEOUS AMMONIA FORWARDING PUMPS
25. AUXILIARY COOLING PUMPS
26. CHILLER/COOLING TOWER PACKAGE
27. COOLING TOWER CHEMICAL SYSTEM
28. OIL/WATER SEPARATOR (UG)
29. WASTE WATER SUMP AND LIFT STATION
30. NATURAL GAS METERING STATION
31. NATURAL GAS INLET SCRUBBER
32. FUEL GAS COMPRESSOR (TYP. 4)
33. HYDROCARBON DRAIN TANK
34. DISCHARGE FILTER SCRUBBER (TYP. 2)
35. FUEL GAS COOLING RADIATOR (TYP.4)
36. 480V MCC'S
37. SUPPLEMENTAL AERATION BLOWERS
38. MEMBRANE AIR SCOUR BLOWERS
39. DRAIN PUMP
40. PERMEATE PUMP (TYP. 2)
41. MIXED LIQUOR RECIRCULATION PUMPS
42. CIP/BACKPULSE PUMPS
43. CIP/BACKPULSE TANK
44. DIP TANK RECIRC/DRAIN PUMPS
45. DIP TANKS
46. CASSETTE LAYDOWN AREA
47. MEMBRANE TANKS
48. AEROBIC ZONE
49. CHEMICAL FEED/STORAGE ROOM
50. FEED CHANNEL
51. COMBINED INLET SYSTEM
52. OFFICE/CONTROL ROOM
53. TREATED WATER STORAGE TANK
54. TREATED WATER PUMPS
55. DI WATER STORAGE TANK
56. DI WATER PUMPS
57. RO PERMEATE TANK
58. (NOT USED)
59. (NOT USED)
60. ULTRA FILTRATION PERMEATE TANK
61. BULK CAUSTIC STORAGE (IF REQUIRED)
62. BULK ACID STORAGE (IF REQUIRED)
63. BULK SODIUM HYPOCHLORITE STORAGE
64. EDI TRAIN
65. EDI FEED PUMP SKID
66. RO CLEAN IN PLACE SKID
67. RO FEED PUMP SKID
68. RO TRAINS
69. RO CARTRIDGE FILTERS
70. ULTRA FILTRATION SYSTEM WASTE SKID
71. ULTRA FILTRATION SYSTEM TRAINS
72. ULTRA FILTRATION SYSTEM PUMP SKID
73. AIR BLOWERS
74. CHEMICAL METERING SYSTEMS
75. 5kV SWITCHGEAR
76. 480V MCC'S
77. BATTERIES
78. 480V SWITCHGEAR
79. 480V STATION SERVICE TRANSFORMERS (TYP. 4)
80. PRIVATE OFFICE
81. ELEVATOR
82. CONFERENCE/TRAINING ROOM
83. JANITOR'S STORAGE
84. OFFICE SUPPLY STORAGE
85. MEN'S LOCKERS/SHOWER
86. WOMEN'S LOCKERS/SHOWER
87. LUNCH ROOM
88. INPUT/OUTPUT CABINETS
89. HUMAN/MACHINE INTERFACE
90. CTG CONTROL PANELS
91. SWITCHYARD CONTROL PANEL



PLANT OPERATIONS BUILDING - 2ND FLOOR - PLAN
SCALE: 1"=20'-0"

PRELIMINARY

G	3-1-05	PROPT'Y. PERIMETER FEATURES ADDED
F	1-24-05	COORD. SYSTEM ADJUSTED
E	1-21-05	STACK COORD. CHANGED TO METERS
D	1-21-05	NAD83 COORDINATES ADDED AND ITEMS 58 & 59 DELETED
C	1-6-05	MUNI UNDEVELOPED SITE
B	11-4-04	2 + 2 ACRE SITE PRELIMINARY ISSUE

GRAPHIC SCALE
1" = 20'-0"
0' 10' 20' 30' 40' 50' 60'

SEPTEMBER 2005

SOURCE: AFC Supplement A, Figure 2-2